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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,133	01/05/2001	Yuji Yagi	MEIC:053A	6471

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EXAMINER

CHANG, RICK KILTAE

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 05/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/754,133

Applicant(s)

OSAKA-SHI ET AL

Examiner

Rick K. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-34 is/are pending in the application.
- 4a) Of the above claim(s) 27,28,32-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-26 and 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The following title is suggested: METHOD OF MANUFACTURING A CIRCUIT BOARD HAVING SIMULTANEOUSLY AND UNITARILY FORMED WIRING PATTERNS AND PROTRUSIONS.

Claim Objections

2. Claims are objected to because of the following informalities:

Claims 25-26 and 30-31, line 1: amend "a" to --the--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26, line 9: the limitation "the board" renders the claim vague and indefinite. The disclosure states that the conductive material is transferred to the substrate to form the circuit board. The limitation should be amended to --the substrate-- to conform to the disclosure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 24-26 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohri et al (US 6,132,543) in view of Covell, II et al (US 5,718,367)

Re claims 24 and 29: Mohri discloses forming the wiring patterns on a circuit board (Figs. 3-5); and coupling electrically the circuit board and electrodes on a semiconductor chip component (Fig. 15).

Mohri fails to disclose simultaneously and unitarily forming the protrusions along with the wiring patterns.

Covell discloses simultaneously and unitarily forming the protrusions (72) along with the wiring patterns (71) thereby improving the electrical connectivity between the wiring patterns and the mounting pads.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mohri by simultaneously and unitarily forming the protrusions along with the wiring patterns, as taught by Covell, for the purpose of improving the electrical connectivity between the wiring patterns and the mounting pads.

Re claims 25 and 30: Mohri fails to disclose that the wiring patterns and the protrusions are made of a same material.

Covell discloses that they are made of solder thereby reducing production cost.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mohri by manufacturing the wiring patterns and the protrusions with the same material, as taught by Covell, for the purpose of reducing production cost.

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Re claims 26 and 31: Mohri discloses forming a first groove on a film (50) and a bottom surface (53 has a bottom surface); filling conductive material into the first groove (52); transferring the filled conductive material to the substrate (1); and firing (col. 7, line 7).

Mohri fails to disclose forming a second groove at a predetermined location in the first groove.

Covell discloses forming a second groove (locations of 70 and 72 in mold 53) at a predetermined location in the first groove (location of 71 in mold 53) thereby unitarily forming the mounting pads to the wiring patterns.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mohri by forming a second groove at a predetermined location in the first groove, as taught by Covell, for the purpose unitarily forming the mounting pads to the wiring patterns.

Response to Arguments

7. Applicant's arguments filed 4/8/02 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the method of claims 24 and 29 . . . presently claimed invention (Page 8, lines 11-17)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the references fail to teach or suggest benefits or desirability of simultaneously and unitarily forming the protrusions along with the wiring patterns, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mohri by simultaneously and unitarily forming the protrusions along with the wiring patterns, as taught by Covell, for the purpose of improving the electrical connectivity between the wiring patterns and the mounting pads.

Re claims 26 and 31 argument in Page 9, '543 shows a bottom surface in the first groove 53.

Conclusion

8. Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



Rick K. Chang
Examiner
Art Unit 3729

RC
May 8, 2002